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What is claimed is:

1. A liquid lansoprazole formulation comprising lansoprazole and an excipient system, wherein:
  - 10 (a) the concentration of lansoprazole in the formulation ranges from about 0.3 mg/mL to about 50 mg/mL;
  - (b) the excipient system comprises either a single excipient, or a combination of two to four compositionally distinct excipients, wherein each excipient is selected from the group of excipient categories consisting of: a hydrotrope, a preservative,  
15 a pharmaceutically acceptable salt, a surfactant, a base, a cyclodextrin, a viscosity modifier, an emulsifier, a solvent, a carrier, and a lubricant; and
  - (c) the formulation may be administered parenterally to a mammal in need thereof.
- 20 2. A formulation of claim 1, comprising a two-excipient system in which the concentration of each excipient in the formulation ranges from about 0.4 mg/mL to about 60 mg/mL and total excipient concentration in the formulation ranges from about 0.8 mg/mL to about 120 mg/mL.
- 25 3. A formulation of claim 2, further comprising a diluent and a preservative that acts as an antimicrobial agent.
4. A formulation of claim 1, comprising lansoprazole and a single excipient.
- 30 5. A formulation of claim 1, comprising lansoprazole in combination with a two-excipient system comprising either compositionally distinct first and second excipients selected from the same excipient category, or compositionally distinct first and second excipients selected from different excipient categories.

- 5 6. A formulation of claim 4, wherein the excipient is either a hydrotrope, a preservative, a pharmaceutically acceptable salt, a surfactant, a base, a cyclodextrin, a viscosity modifier, an emulsifier, a solvent, a carrier, or a lubricant.
- 10 7. A formulation of claim 5, wherein the excipient system comprises either compositionally distinct first and second emulsifiers, or an emulsifier in combination with either: (i) a viscosity modifier, (ii) a carrier, (iii) a base, (iv) a solvent, or (v) a surfactant.
- 15 8. A formulation of claim 5, wherein the excipient system comprises a preservative in combination with either: (i) a carrier, (ii) a surfactant, (iii) a solvent, or (iv) a cyclodextrin.
- 20 9. A formulation of claim 5, wherein the excipient system comprises either compositionally distinct first and second cyclodextrins, or a cyclodextrin in combination with either: (i) an emulsifier, (ii) a viscosity modifier, (iii) a carrier, (iv) a lubricant, (v) a surfactant, or (vi) a solvent.
- 25 10. A formulation of claim 5, wherein the excipient system comprises a pharmaceutically acceptable calcium salt in combination with either: (i) a carrier, (ii) a base, (iii) a solvent, or (iv) a surfactant.
- 30 11. A formulation of claim 5, wherein the excipient system comprises either compositionally distinct first and second surfactants, or a surfactant in combination with either: (i) a carrier, (ii) a viscosity modifier, (iii) a base, (iv) a pharmaceutically acceptable salt other than a calcium salt, (v) a solvent, (vi) a lubricant, or (vii) a hydrotrope.

- 5 12. A formulation of claim 5, wherein the excipient system comprises a  
hydrotrope in combination with either: (i) a viscosity modifier, (ii) a carrier, (iii) a  
preservative, (iv) a base, (v) a solvent, or (vi) a cyclodextrin.
- 10 13. A formulation of claim 5, wherein the excipient system comprises either  
compositionally distinct first and second viscosity modifiers, or a viscosity  
modifier in combination with either: (i) a carrier, (ii) a lubricant, or (iii) a solvent.
- 15 14. A formulation of claim 5, wherein the excipient system comprises either  
compositionally distinct first and second carriers, or a carrier in combination with  
either: (i) a solvent, or (ii) a lubricant.
- 20 15. A formulation of claim 5, wherein the excipient system comprises either  
compositionally distinct first and second bases, or a base in combination with  
either: (i) a preservative, (ii) a solvent, (iii) a carrier, (iv) a viscosity modifier, (v)  
a lubricant, or (vi) a cyclodextrin.
- 25 16. A formulation of claim 5, wherein the excipient system comprises either  
compositionally distinct first and second solvents, or a solvent in combination  
with either: (i) a salt, or (ii) a lubricant.
- 30 17. A formulation of claim 5, wherein the excipient system comprises  
compositionally distinct first and second lubricants.
- 35 18. A formulation of claim 4, wherein the excipient is selected from the group  
consisting of: sorbitol, mannitol, lactose, benzethonium chloride, chlorobutanol,  
methylparaben, methanol, ethanol, i-propanol, n-butanol, calcium chloride,  
magnesium chloride, calcium gluconate, calcium glubionate, calcium gluceptate,  
polyoxyethylated castor oil, polysorbate 20, polysorbate 80, poloxamers,  
deoxycholic acid and salts of deoxycholic acid, lysine, diethanolamine, gamma  
cyclodextrin, hydroxypropyl-beta-cyclodextrin, polyvinylpyrrolidone, glycerin,

- 5    lecithin, sodium benzoate, sodium acetate, sodium tartrate, polyethylene glycol, starch, and propylene glycol.
19. A formulation of claim 5, wherein each excipient is selected from the group consisting of: sorbitol, mannitol, lactose, benzethonium chloride, chlorobutanol, methylparaben, methanol, ethanol, i-propanol, n-butanol, calcium chloride, magnesium chloride, calcium gluconate, calcium glubionate, calcium gluceptate, polyoxyethylated castor oil, polysorbate 20, polysorbate 80, poloxamers, deoxycholic acid and salts of deoxycholic acid, lysine, diethanolamine, gamma cyclodextrin, hydroxypropyl-beta-cyclodextrin, polyvinylpyrrolidone, glycerin,
- 10    lecithin, sodium benzoate, sodium acetate, sodium tartrate, polyethylene glycol, starch, and propylene glycol.
20. A formulation of claim 1, wherein:
- (a) the concentration of lansoprazole in the formulation is between about 4.0 mg/mL to 50 mg/mL; and
- 20    (b) the excipient system is a four-excipient system comprising a surfactant, compositionally distinct first and second solvents, and an alcohol.
21. A formulation of claim 20, wherein the surfactant is a polysorbate, the first and second solvents are polyethylene glycols, and the alcohol is methanol, ethanol, i-propanol or n-butanol.
- 25    22. A formulation of claim 21, wherein the surfactant is polysorbate 80, the first or second solvent is PEG-300, and the alcohol is ethanol.
- 30    23. A formulation of claim 1, wherein:
- (a) the concentration of lansoprazole in the formulation is between about 0.4 mg/mL to about 40 mg/mL; and
- (b) the excipient system is a three-excipient system comprising a surfactant and compositionally distinct first and second solvents.
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24. A formulation of claim 23, wherein the surfactant is a polysorbate and the first and second solvents are compositionally distinct polyethylene glycols.

25. A formulation of claim 24, wherein the surfactant is polysorbate 80 and the first or second solvent is PEG-300.

26. A process of making liquid lansoprazole formulations comprising:  
dissolving lansoprazole at a concentration of from about 0.3 mg/mL to about 50 mg/mL into an excipient system comprising either a single excipient, or a combination of between two to four compositionally distinct excipients, wherein  
(a) each excipient is selected from the group of excipient categories consisting of: a hydrotrope, a preservative, a pharmaceutically acceptable salt, a surfactant, a base, a cyclodextrin, a viscosity modifier, an emulsifier, a solvent, a carrier, and a lubricant; and  
(b) the formulation may be administered parenterally to a mammal in need thereof.

27. The process of claim 26, comprising dissolving lansoprazole into a single excipient.

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28. The process of claim 26, comprising dissolving lansoprazole into a two-excipient system comprising either compositionally distinct first and second excipients selected from the same excipient category, or compositionally distinct first and second excipients selected from different excipient categories.

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29. The process of claim 27, wherein the excipient is selected from the group consisting of: sorbitol, mannitol, lactose, benzethonium chloride, chlorobutanol, methylparaben, methanol, ethanol, i-propanol, n-butanol, calcium chloride, magnesium chloride, calcium gluconate, calcium glubionate, calcium gluceptate, polyoxyethylated castor oil, polysorbate 20, polysorbate 80, poloxamers,

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- 5 deoxycholic acid and salts of deoxycholic acid, lysine, diethanolamine, gamma cyclodextrin, hydroxypropyl-beta-cyclodextrin, polyvinylpyrrolidone, glycerin, lecithin, sodium benzoate, sodium acetate, sodium tartrate, polyethylene glycol, starch, and propylene glycol.
- 10 30. The process of claim 28, wherein each excipient is selected from the group consisting of: sorbitol, mannitol, lactose, benzethonium chloride, chlorobutanol, methylparaben, methanol, ethanol, i-propanol, n-butanol, calcium chloride, magnesium chloride, calcium gluconate, calcium glubionate, calcium gluceptate, polyoxyethylated castor oil, polysorbate 20, polysorbate 80, poloxamers,
- 15 deoxycholic acid and salts of deoxycholic acid, lysine, diethanolamine, gamma cyclodextrin, hydroxypropyl-beta-cyclodextrin, polyvinylpyrrolidone, glycerin, lecithin, sodium benzoate, sodium acetate, sodium tartrate, polyethylene glycol, starch, and propylene glycol.
- 20 31. A pharmaceutical dosage form comprising a formulation of claim 4, wherein the formulation may be administered by continuous infusion to a mammal in need thereof.
- 25 32. A pharmaceutical dosage form comprising a formulation of claim 5, wherein the formulation may be administered by continuous infusion to a mammal in need thereof.
- 30 33. A pharmaceutical dosage form comprising a formulation of claim 4, wherein the formulation may be administered by injection to a mammal in need thereof.
34. A pharmaceutical dosage form comprising a formulation of claim 5, wherein the formulation may be administered by injection to a mammal in need thereof.

- 5     35. A method of treating a mammal suffering from a gastrointestinal disorder comprising administering parenterally to the mammal a therapeutically effective amount of a formulation of claim 1.
- 10     36. A method of treating a mammal suffering from a gastrointestinal disorder comprising administering parenterally to the mammal a therapeutically effective amount of a formulation of claim 4.
- 15     37. A method of treating a mammal suffering from a gastrointestinal disorder comprising administering parenterally to the mammal a therapeutically effective amount of a formulation of claim 5.
- 20     38. A method of treating a mammal suffering from a gastrointestinal disorder comprising administering parenterally to the mammal a therapeutically effective amount of a formulation of claim 20.
- 25     39. A method of treating a mammal suffering from a gastrointestinal disorder comprising administering parenterally to the mammal a therapeutically effective amount of a formulation of claim 23.
- 30     40. The method of claim 35, wherein:  
      (a) the mammal is a human; and  
      (b) the formulation of claim 1 has a lansoprazole concentration of about 0.3 mg/mL to 0.4 mg/mL and is administered to the human by continuous infusion over a period of between about ten to twenty minutes.
- 35     41. The method of claim 35, wherein:  
      (a) the mammal is a human; and  
      (b) the formulation of claim 1 has a lansoprazole concentration of about 3 mg/mL to 4 mg/mL or greater and is administered to the human by injection over a period of about ten minutes or less.

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42. A method of treatment comprising administering parenterally to a mammal a prophylactically effective amount of a formulation of claim 1.

10 43. A method of treatment comprising administering parenterally to a mammal a prophylactically effective amount of a formulation of claim 4.

44. A method of treatment comprising administering parenterally to a mammal a prophylactically effective amount of a formulation of claim 5.

15 45. A method of treatment comprising administering parenterally to a mammal a prophylactically effective amount of a formulation of claim 20.

20 46. A method of treatment comprising administering parenterally to a mammal a prophylactically effective amount of a formulation of claim 23.

47. A liquid lansoprazole formulation comprising lansoprazole and an excipient(s) selected from the group consisting of:

- 25 (a) lecithin;  
(b) lecithin and polyvinylpyrrolidone;  
(c) lecithin and sorbitol;  
(d) lecithin and lysine;  
(e) lecithin and PEG 12;  
(f) lecithin and PEG 400;  
(g) lecithin and poloxamer 188;  
30 (h) lecithin and polysorbate 80;  
(i) lecithin and polysorbate 20;  
(j) methylparaben and sorbitol;  
(k) methylparaben and polysorbate 80;  
(l) methylparaben and polysorbate 20;  
35 (m) gamma-cyclodextrin and lecithin;



- 5 (n) gamma-cyclodextrin and polyvinylpyrrolidone;  
(o) gamma-cyclodextrin and sorbitol;  
(p) gamma-cyclodextrin and sodium acetate;  
(q) gamma-cyclodextrin and sodium benzoate;  
(r) gamma-cyclodextrin and poloxamer 188;  
10 (s) gamma-cyclodextrin and polysorbate 80;  
(t) gamma-cyclodextrin and propylene glycol;  
(u) gamma-cyclodextrin and polysorbate 20;  
(v) calcium gluceptate and sorbitol;  
(w) calcium gluceptate and diethanolamine;  
15 (x) calcium gluceptate and PEG 35 castor oil;  
(y) calcium gluceptate and poloxamer 188;  
(z) calcium gluceptate and polysorbate 80;  
(aa) calcium gluceptate and polysorbate 20;  
(bb) deoxycholic acid and lecithin;  
20 (cc) deoxycholic acid and methylparaben;  
(dd) deoxycholic acid and gamma-cyclodextrin;  
(ee) deoxycholic acid;  
(ff) deoxycholic acid and mannitol;  
(gg) deoxycholic acid and polyvinylpyrrolidone;  
25 (hh) deoxycholic acid and sorbitol;  
(ii) deoxycholic acid and diethanolamine;  
(jj) deoxycholic acid and lysine;  
(kk) deoxycholic acid and magnesium chloride;  
(ll) deoxycholic acid and PEG 12;  
30 (mm) deoxycholic acid and sodium acetate;  
(nn) deoxycholic acid and sodium benzoate;  
(oo) deoxycholic acid and sodium tartrate;  
(pp) deoxycholic acid and ethanol;  
(qq) deoxycholic acid and glycerin;  
35 (rr) deoxycholic acid and hydroxypropyl-beta-cyclodextrin;

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- 5           (ss)    deoxycholic acid and PEG 400;  
          (tt)    deoxycholic acid and PEG 6;  
          (uu)    deoxycholic acid and poloxamer 188;  
          (vv)    deoxycholic acid and polysorbate 80;  
          (ww)   deoxycholic acid and propylene glycol;  
10         (xx)    deoxycholic acid and polysorbate 20;  
          (yy)    lactose and deoxycholic acid;  
          (zz)    lactose and polyvinylpyrrolidone;  
          (aaa)   lactose and sorbitol;  
          (bbb)   lactose and benzethonium chloride;  
15         (ccc)    lactose and diethanolamine;  
          (ddd)   lactose and PEG 35 castor oil;  
          (eee)    lactose and poloxamer 188;  
          (fff)    lactose and polysorbate 80;  
          (ggg)    lactose and polysorbate 20;  
20         (hhh)    mannitol and sorbitol;  
          (iii)    mannitol and poloxamer 188;  
          (ijj)    mannitol and polysorbate 80;  
          (kkk)    mannitol and polysorbate 20;  
          (III)    polyvinylpyrrolidone;  
25         (mmm)   polyvinylpyrrolidone and sorbitol;  
          (nnn)    polyvinylpyrrolidone and sodium benzoate;  
          (ooo)    polyvinylpyrrolidone and sodium tartrate;  
          (ppp)    polyvinylpyrrolidone and polysorbate 80;  
          (qqq)    polyvinylpyrrolidone and polysorbate 20;  
30         (rrr)    sorbitol;  
          (sss)    sorbitol and polysorbate 80;  
          (ttt)    sorbitol and polysorbate 20;  
          (uuu)    chlorobutanol and sorbitol;  
          (vvv)    chlorobutanol and PEG 35 castor oil;  
35         (www)   chlorobutanol and polysorbate 80;

- 5        (xxx) benzethonium chloride and calcium gluceptate;  
      (yyy) benzethonium chloride and chlorobutanol;  
      (zzz) benzethonium chloride;  
      (aaaa) benzethonium chloride and PEG 35 castor oil;  
      (bbbb) benzethonium chloride and polysorbate 80;  
10       (cccc) diethanolamine and lecithin;  
      (dddd) diethanolamine and gamma-cyclodextrin;  
      (eeee) diethanolamine and mannitol;  
      (ffff) diethanolamine and polyvinylpyrrolidone;  
      (gggg) diethanolamine and sorbitol;  
15       (hhhh) diethanolamine;  
      (iiii) diethanolamine and lysine;  
      (jjjj) diethanolamine and sodium acetate;  
      (kkkk) diethanolamine and ethanol;  
      (llll) diethanolamine and glycerin;  
20       (mmmm) diethanolamine and hydroxypropyl-beta-cyclodextrin;  
      (nnnn) diethanolamine and PEG 400;  
      (oooo) diethanolamine and PEG 6;  
      (pppp) diethanolamine and poloxamer 188;  
      (qqqq) diethanolamine and polysorbate 80;  
25       (rrrr) diethanolamine and propylene glycol;  
      (ssss) diethanolamine and polysorbate 20;  
      (tttt) lysine and polyvinylpyrrolidone;  
      (uuuu) lysine and sorbitol;  
      (vvvv) lysine and poloxamer 188;  
30       (wwww) lysine and polysorbate 80;  
      (xxxx) lysine and polysorbate 20;  
      (yyyy) magnesium chloride and sorbitol;  
      (zzzz) magnesium chloride and poloxamer 188;  
      (aaaaa) magnesium chloride and polysorbate 80;  
35       (bbbb) magnesium chloride and polysorbate 20;

- 5 (ccccc) PEG 12 and polyvinylpyrrolidone;  
(ddddd) PEG 12 and sorbitol;  
(eeee) PEG 12 and poloxamer 188;  
(ffff) PEG 12 and polysorbate 80;  
(ggggg) PEG 12 and polysorbate 20;  
10 (hhhhh) sodium acetate and sorbitol;  
(iiii) sodium acetate and polysorbate 80;  
(jjjj) sodium acetate and polysorbate 20;  
(kkkkk) sodium benzoate and sorbitol;  
(llll) sodium benzoate;  
15 (mmmmm) sodium benzoate and polysorbate 80;  
(nnnnn) sodium benzoate and polysorbate 20;  
(oooo) sodium tartrate and sorbitol;  
(ppppp) sodium tartrate and polysorbate 80;  
(qqqqq) sodium tartrate and polysorbate 20;  
20 (rrrrr) ethanol and sorbitol;  
(sssss) ethanol and glycerin;  
(tttt) ethanol and hydroxypropyl-beta-cyclodextrin;  
(uuuuu) ethanol and poloxamer 188;  
(vvvvv) ethanol and polysorbate 80;  
25 (wwwww) ethanol and propylene glycol;  
(xxxxx) ethanol and polysorbate 20;  
(yyyyy) glycerin and lecithin;  
(zzzzz) glycerin and polyvinylpyrrolidone;  
(aaaaa) glycerin and sorbitol;  
30 (bbbbb) glycerin and hydroxypropyl-beta-cyclodextrin;  
(ccccc) glycerin and poloxamer 188;  
(ddddd) glycerin and polysorbate 80;  
(eeee) glycerin and polysorbate 20;  
(fffff) hydroxypropyl-beta-cyclodextrin and methylparaben;  
35 (ggggg) hydroxypropyl-beta-cyclodextrin and mannitol;

- 5 (hhhhhh) hydroxypropyl-beta-cyclodextrin and polyvinylpyrrolidone;  
 (iiiiii) hydroxypropyl-beta-cyclodextrin and sorbitol;  
 (jjjjjj) hydroxypropyl-beta-cyclodextrin and PEG 12;  
 (kkkkkk) hydroxypropyl-beta-cyclodextrin and sodium acetate;  
 (llllll) hydroxypropyl-beta-cyclodextrin and sodium benzoate;  
 10 (mmmmmm) hydroxypropyl-beta-cyclodextrin and sodium tartrate;  
 (nnnnnn) hydroxypropyl-beta-cyclodextrin and poloxamer 188;  
 (oooooo) hydroxypropyl-beta-cyclodextrin and polysorbate 80;  
 (pppppp) hydroxypropyl-beta-cyclodextrin and polysorbate 20;  
 (qqqqqq) PEG 35 castor oil and lecithin;  
 15 (rrrrrr) PEG 35 castor oil and methylparaben;  
 (ssssss) PEG 35 castor oil and gamma-cyclodextrin;  
 (tttttt) PEG 35 castor oil and deoxycholic acid;  
 (uuuuuu) PEG 35 castor oil and mannitol;  
 (vvvvvv) PEG 35 castor oil and polyvinylpyrrolidone;  
 20 (wwwwww) PEG 35 castor oil and sorbitol;  
 (xxxxxx) PEG 35 castor oil and diethanolamine;  
 (yyyyyy) PEG 35 castor oil and lysine;  
 (zzzzzz) PEG 35 castor oil and magnesium chloride;  
 (aaaaaa) PEG 35 castor oil and PEG 12;  
 25 (bbbbbb) PEG 35 castor oil and sodium acetate;  
 (cccccc) PEG 35 castor oil and sodium benzoate;  
 (dddddd) PEG 35 castor oil and sodium tartrate;  
 (eeeeee) PEG 35 castor oil and ethanol;  
 (ffffff) PEG 35 castor oil and glycerin;  
 30 (gggggg) PEG 35 castor oil and hydroxypropyl-beta-cyclodextrin;  
 (hhhhhh) PEG 35 castor oil and PEG 400;  
 (iiiiii) PEG 35 castor oil and PEG 6;  
 (jjjjjj) PEG 35 castor oil and poloxamer 188;  
 (kkkkkk) PEG 35 castor oil and polysorbate 80;  
 35 (llllll) PEG 35 castor oil and propylene glycol;

- 5 (mmmmmmm) PEG 35 castor oil and polysorbate 20;  
 (nnnnnnn) PEG 400 and sorbitol;  
 (ooooooo) PEG 400 and poloxamer 188;  
 (ppppppp) PEG 400 and polysorbate 80;  
 (qqqqqqq) PEG 400 and polysorbate 20;  
 10 (rrrrrrr) PEG 6 and sorbitol;  
 (sssssss) PEG 6 and poloxamer 188;  
 (ttttttt) PEG 6 and polysorbate 80;  
 (uuuuuuu) PEG 6 and polysorbate 20;  
 (vvvvvvv) poloxamer 188 and polyvinylpyrrolidone;  
 15 (wwwwwww) poloxamer 188 and sorbitol;  
 (xxxxxxx) poloxamer 188 and sodium acetate;  
 (yyyyyyy) poloxamer 188 and sodium benzoate;  
 (zzzzzzz) poloxamer 188 and sodium tartrate;  
 (aaaaaaaa) poloxamer 188;  
 20 (bbbbbbbb) poloxamer 188 and polysorbate 80;  
 (ccccccc) poloxamer 188 and propylene glycol;  
 (ddddddd) poloxamer 188 and polysorbate 20;  
 (eeeeeee) polysorbate 80;  
 (fffffft) propylene glycol and sorbitol;  
 25 (ggggggg) propylene glycol and polysorbate 80;  
 (hhhhhhh) propylene glycol;  
 (iiiiiii) propylene glycol and polysorbate 20;  
 (jjjjjjj) polysorbate 20 and polysorbate 80;  
 (kkkkkkk) polysorbate 20;  
 30 (lllllll) lactose and methylparaben;  
 (mmmmmmm) mannitol and polyvinylpyrrolidone;  
 (nnnnnnn) mannitol and sodium acetate;  
 (ooooooo) polyvinylpyrrolidone and sodium acetate;  
 (ppppppp) chlorobutanol and polysorbate 20;  
 35 (qqqqqqq) benzethonium chloride and lecithin;

- 5 (rrrrrrrr) benzethonium chloride and methylparaben;  
 (ssssssss) benzethonium chloride and gamma-cyclodextrin;  
 (ttttttt) benzethonium chloride and mannitol;  
 (uuuuuuuu) benzethonium chloride and polyvinylpyrrolidone;  
 (vvvvvvvv) benzethonium chloride and sorbitol;  
 10 (wwwwwww) benzethonium chloride and diethanolamine;  
 (xxxxxxx) benzethonium chloride and lysine;  
 (yyyyyyyy) benzethonium chloride and PEG 12;  
 (zzzzzzzz) benzethonium chloride and sodium acetate;  
 (aaaaaaaa) benzethonium chloride and sodium tartrate;  
 15 (bbbbbbbbb) benzethonium chloride and ethanol;  
 (cccccccc) benzethonium chloride and glycerin;  
 (ddddddddd) benzethonium chloride and hydroxypropyl-beta-cyclodextrin;  
 (eeeeeeee) benzethonium chloride and PEG 400;  
 20 (fffffffff) benzethonium chloride and PEG 6;  
 (ggggggggg) benzethonium chloride and poloxamer 188;  
 (hhhhhhhhh) benzethonium chloride and propylene glycol;  
 (iiiiiii) benzethonium chloride and polysorbate 20;  
 (jjjjjjjj) diethanolamine and methylparaben;  
 25 (kkkkkkkkk) diethanolamine and magnesium chloride;  
 (lllllllll) diethanolamine and PEG 12;  
 (mmmmmmmmm) diethanolamine and sodium benzoate;  
 (nnnnnnnnn) diethanolamine and sodium tartrate;  
 (ooooooooo) magnesium chloride and polyvinylpyrrolidone;  
 30 (ppppppppp) PEG 12 and sodium acetate;  
 (qqqqqqqqq) ethanol and lecithin;  
 (rrrrrrrrr) ethanol and gamma-cyclodextrin;  
 (sssssssss) ethanol and polyvinylpyrrolidone;  
 (ttttttttt) ethanol and sodium acetate;  
 35 (uuuuuuuuu) hydroxypropyl-beta-cyclodextrin and lysine;

- 5 (vvvvvvvvvv) hydroxypropyl-beta-cyclodextrin and magnesium chloride;  
(wwwwwwwww) hydroxypropyl-beta-cyclodextrin and PEG 400;  
(xxxxxxxxxx) hydroxypropyl-beta-cyclodextrin and PEG 6;  
(yyyyyyyyyy) hydroxypropyl-beta-cyclodextrin and propylene glycol;  
(zzzzzzzzzz) propylene glycol and polyvinylpyrrolidone;
- 10 (aaaaaaaaa) lecithin and methylparaben;  
(bbbbbbbbbbb) lecithin and mannitol;  
(ccccccccc) lecithin and sodium acetate;  
(ddddddddddd) lecithin and sodium benzoate;  
(eeeeeeeeeee) lecithin and sodium tartrate;
- 15 (fffffffffff) lecithin and PEG 6;  
(ggggggggggg) lecithin and propylene glycol;  
(hhhhhhhhhhh) methylparaben and PEG 12;  
(iiiiiiiiiii) methylparaben and PEG 6;  
(jjjjjjjjjjj) methylparaben and poloxamer 188;
- 20 (kkkkkkkkkkk) gamma-cyclodextrin and methylparaben;  
(lllllllllll) gamma-cyclodextrin and PEG 12;  
(mmmmmmmmmmm) calcium gluceptate and ethanol;  
(nnnnnnnnnnn) lactose and lecithin;  
(ooooooooooo) lactose and lysine;
- 25 (ppppppppppp) lactose and sodium benzoate;  
(qqqqqqqqqqq) lactose and sodium tartrate;  
(rrrrrrrrrrr) lactose and glycerin;  
(sssssssssss) lactose and PEG 6;  
(ttttttttttt) mannitol and methylparaben;
- 30 (uuuuuuuuuuu) mannitol and PEG 400;  
(vvvvvvvvvvv) mannitol and propylene glycol;  
(wwwwwwwwwww) chlorobutanol and lecithin;  
(xxxxxxxxxxx) chlorobutanol and diethanolamine;  
(yyyyyyyyyyy) benzethonium chloride and sodium benzoate;
- 35 (zzzzzzzzzzz) lysine and methylparaben;



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- 5 (aaaaaaaaaaa) lysine and mannitol;  
 (bbbbbbbbbbb) lysine;  
 (ccccccccccc) lysine and PEG 6;  
 (ddddddddddd) magnesium chloride;  
 (eeeeeeeeeee) magnesium chloride and sodium acetate;  
 10 (fffffffffff) magnesium chloride and PEG 400;  
 (ggggggggggg) sodium tartrate;  
 (hhhhhhhhhhh) ethanol and methylparaben;  
 (iiiiiiiiiii) ethanol and mannitol;  
 (jjjjjjjjjjj) ethanol and sodium benzoate;  
 15 (kkkkkkkkkkk) ethanol and PEG 400;  
 (lllllllllll) ethanol and PEG 6;  
 (mmmmmmmmmmm) hydroxypropyl-beta-cyclodextrin and  
 lecithin;  
 (nnnnnnnnnnn) PEG 35 castor oil; and  
 20 (oooooooooooo) propylene glycol and sodium acetate.

48. The liquid lansoprazole formulation of claim 47, wherein the excipient(s) comprises a one or a two excipient system.

25 49. The liquid lansoprazole formulation of claim 47, wherein the concentration of lecithin is:

- (a) less than or equal to 0.7 mg/mL;  
 (b) less than or equal to 0.6 mg/mL;  
 (c) less than or equal to 0.5 mg/mL;  
 30 (d) less than or equal to 0.4 mg/mL;  
 (e) less than or equal to 0.3 mg/mL;  
 (f) between about 0.05 and 0.9 mg/mL;  
 (g) between about 0.1 and 0.8 mg/mL;  
 (h) between about 0.1 and 0.7 mg/mL;  
 35 (i) between about 0.2 and 0.7 mg/mL;

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- 5           (j)     between about 0.3 and 0.6 mg/mL;  
             (k)     about 0.3 mg/mL; or  
             (l)     about 0.6 mg/mL.

10       50. The liquid lansoprazole formulation of claim 47, wherein the concentration of polyvinylpyrrolidone is:

- (a)     less than or equal to 25 mg/mL;  
          (b)     less than or equal to 20 mg/mL;  
          (c)     less than or equal to 15 mg/mL;  
          (d)     less than or equal to 12.5 mg/mL;  
15       (e)     between about 0.5 and 25 mg/mL;  
          (f)     between about 1 and 25 mg/mL;  
          (g)     between about 2 and 25 mg/mL;  
          (h)     between about 5 and 25 mg/mL;  
          (i)     between about 10 and 25 mg/mL;  
20       (j)     between about 10 and 20 mg/mL;  
          (k)     between about 10 and 15 mg/mL;  
          (l)     about 12.5 mg/mL; or  
          (m)     about 25 mg/mL.

25       51. The liquid lansoprazole formulation of claim 47, wherein the concentration of sorbitol is:

- (a)     less than or equal to 25 mg/mL;  
          (b)     less than or equal to 20 mg/mL;  
          (c)     less than or equal to 15 mg/mL;  
30       (d)     less than or equal to 12.5 mg/mL;  
          (e)     between about 0.5 and 25 mg/mL;  
          (f)     between about 1 and 25 mg/mL;  
          (g)     between about 2 and 25 mg/mL;  
          (h)     between about 5 and 25 mg/mL;  
35       (i)     between about 10 and 25 mg/mL;

- 5 (j) between about 10 and 20 mg/mL;  
(k) between about 10 and 15 mg/mL;  
(l) about 12.5 mg/mL; or  
(m) about 25 mg/mL.
- 10 52. The liquid lansoprazole formulation of claim 47, wherein the concentration of lysine is:
- (a) less than or equal to 40 mg/mL;  
(b) less than or equal to 35 mg/mL;  
(c) less than or equal to 30 mg/mL;  
15 (d) less than or equal to 25 mg/mL;  
(e) less than or equal to 20 mg/mL;  
(f) between about 0.5 and 40 mg/mL;  
(g) between about 1 and 40 mg/mL;  
(h) between about 5 and 40 mg/mL;  
20 (i) between about 10 and 40 mg/mL;  
(j) between about 15 and 40 mg/mL;  
(k) between about 20 and 40 mg/mL;  
(l) between about 20 and 30 mg/mL;  
(m) about 20 mg/mL; or  
25 (n) about 40 mg/mL.
53. The liquid lansoprazole formulation of claim 47, wherein the concentration of PEG 12 is:
- (a) less than or equal to 40 mg/mL;  
30 (b) less than or equal to 35 mg/mL;  
(c) less than or equal to 30 mg/mL;  
(d) less than or equal to 25 mg/mL;  
(e) less than or equal to 20 mg/mL;  
(f) between about 0.5 and 40 mg/mL;  
35 (g) between about 1 and 40 mg/mL;

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- 5 (h) between about 5 and 40 mg/mL;  
(i) between about 10 and 40 mg/mL;  
(j) between about 15 and 40 mg/mL;  
(k) between about 20 and 40 mg/mL;  
(l) between about 20 and 30 mg/mL;  
10 (m) about 20 mg/mL; or  
(n) about 40 mg/mL.

54. The liquid lansoprazole formulation of claim 47, wherein the concentration of PEG 400 is:

- 15 (a) less than or equal to 100 mg/mL;  
(b) less than or equal to 75 mg/mL;  
(c) less than or equal to 50 mg/mL;  
(d) less than or equal to 40 mg/mL;  
(e) less than or equal to 25 mg/mL;  
20 (f) between about 0.5 and 100 mg/mL;  
(g) between about 1 and 75 mg/mL;  
(h) between about 2 and 50 mg/mL;  
(i) between about 5 and 50 mg/mL;  
(j) between about 10 and 50 mg/mL;  
25 (k) between about 20 and 50 mg/mL;  
(l) between about 25 and 50 mg/mL;  
(m) about 25 mg/mL; or  
(n) about 50 mg/mL.

30 55. The liquid lansoprazole formulation of claim 47, wherein the concentration of poloxamer 188 is:

- (a) less than or equal to 100 mg/mL;  
(b) less than or equal to 75 mg/mL;  
(c) less than or equal to 50 mg/mL;  
35 (d) less than or equal to 40 mg/mL;

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- 5 (e) less than or equal to 25 mg/mL;  
(f) between about 0.5 and 100 mg/mL;  
(g) between about 1 and 75 mg/mL;  
(h) between about 2 and 50 mg/mL;  
(i) between about 5 and 50 mg/mL;  
10 (j) between about 10 and 50 mg/mL;  
(k) between about 20 and 50 mg/mL;  
(l) between about 25 and 50 mg/mL;  
(m) about 25 mg/mL; or  
(n) about 50 mg/mL.

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56. The liquid lansoprazole formulation of claim 47, wherein the concentration of polysorbate 80 is:

- (a) less than or equal to 100 mg/mL;  
(b) less than or equal to 75 mg/mL;  
20 (c) less than or equal to 50 mg/mL;  
(d) less than or equal to 40 mg/mL;  
(e) less than or equal to 25 mg/mL;  
(f) between about 0.5 and 100 mg/mL;  
(g) between about 1 and 75 mg/mL;  
25 (h) between about 2 and 50 mg/mL;  
(i) between about 5 and 50 mg/mL;  
(j) between about 10 and 50 mg/mL;  
(k) between about 20 and 50 mg/mL;  
(l) between about 25 and 50 mg/mL;  
30 (m) about 25 mg/mL; or  
(n) about 50 mg/mL.

57. The liquid lansoprazole formulation of claim 47, wherein the concentration of polysorbate 20 is:

- 35 (a) less than or equal to 5 mg/mL;

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- 5 (b) less than or equal to 4 mg/mL;  
(c) less than or equal to 3 mg/mL;  
(d) less than or equal to 2 mg/mL;  
(e) less than or equal to 1 mg/mL;  
(f) less than or equal to 0.5 mg/mL;  
10 (g) between about 0.1 and 5 mg/mL;  
(h) between about 0.5 and 5 mg/mL;  
(i) between about 1 and 5 mg/mL;  
(j) between about 2 and 5 mg/mL;  
(k) between about 2.5 and 5 mg/mL;  
15 (l) about 2.5 mg/mL; or  
(m) about 5 mg/mL.

58. The liquid lansoprazole formulation of claim 47, wherein the concentration of methylparaben is:

- 20 (a) less than or equal to 1 mg/mL;  
(b) less than or equal to 0.9 mg/mL;  
(c) less than or equal to 0.8 mg/mL;  
(d) less than or equal to 0.7 mg/mL;  
(e) less than or equal to 0.6 mg/mL;  
25 (f) less than or equal to 0.5 mg/mL;  
(g) less than or equal to 0.4 mg/mL;  
(h) between about 0.01 and 1 mg/mL;  
(i) between about 0.05 and 1 mg/mL;  
(j) between about 0.1 and 1 mg/mL;  
30 (k) between about 0.2 and 1 mg/mL;  
(l) between about 0.3 and 1 mg/mL;  
(m) between about 0.4 and 1 mg/mL;  
(n) between about 0.5 and 1 mg/mL;  
(o) about 0.5 mg/mL; or  
35 (p) about 1 mg/mL.

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59. The liquid lansoprazole formulation of claim 47, wherein the concentration of gamma-cyclodextrin is:

- (a) less than or equal to 15 mg/mL;
- (b) less than or equal to 12 mg/mL;
- 10 (c) less than or equal to 10 mg/mL;
- (d) less than or equal to 7.5 mg/mL;
- (e) between about 0.1 and 15 mg/mL;
- (f) between about 1 and 15 mg/mL;
- (g) between about 2.5 and 15 mg/mL;
- 15 (h) between about 5 and 15 mg/mL;
- (i) between about 7.5 and 15 mg/mL;
- (j) between about 7.5 and 12 mg/mL;
- (k) between about 7.5 and 10 mg/mL;
- (l) about 7 mg/mL; or
- 20 (m) about 14 mg/mL.

60. The liquid lansoprazole formulation of claim 47, wherein the concentration of sodium acetate is:

- (a) less than or equal to 40 mg/mL;
- 25 (b) less than or equal to 35 mg/mL;
- (c) less than or equal to 30 mg/mL;
- (d) less than or equal to 25 mg/mL;
- (e) less than or equal to 20 mg/mL;
- (f) between about 0.5 and 40 mg/mL;
- 30 (g) between about 1 and 40 mg/mL;
- (h) between about 5 and 40 mg/mL;
- (i) between about 10 and 40 mg/mL;
- (j) between about 15 and 40 mg/mL;
- (k) between about 20 and 40 mg/mL;
- 35 (l) between about 20 and 30 mg/mL;

- 5 (m) about 20 mg/mL; or  
(n) about 40 mg/mL.

61. The liquid lansoprazole formulation of claim 47, wherein the concentration of sodium benzoate is:

- 10 (a) less than or equal to 40 mg/mL;  
(b) less than or equal to 35 mg/mL;  
(c) less than or equal to 30 mg/mL;  
(d) less than or equal to 25 mg/mL;  
(e) less than or equal to 20 mg/mL;  
15 (f) between about 0.5 and 40 mg/mL;  
(g) between about 1 and 40 mg/mL;  
(h) between about 5 and 40 mg/mL;  
(i) between about 10 and 40 mg/mL;  
(j) between about 15 and 40 mg/mL;  
20 (k) between about 20 and 40 mg/mL;  
(l) between about 20 and 30 mg/mL;  
(m) about 20 mg/mL; or  
(n) about 40 mg/mL.

25 62. The liquid lansoprazole formulation of claim 47, wherein the concentration of propylene glycol is:

- (a) less than or equal to 100 mg/mL;  
(b) less than or equal to 75 mg/mL;  
(c) less than or equal to 50 mg/mL;  
30 (d) less than or equal to 40 mg/mL;  
(e) less than or equal to 25 mg/mL;  
(f) between about 0.5 and 100 mg/mL;  
(g) between about 1 and 75 mg/mL;  
(h) between about 2 and 50 mg/mL;  
35 (i) between about 5 and 50 mg/mL;



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- 5 (j) between about 10 and 50 mg/mL;  
(k) between about 20 and 50 mg/mL;  
(l) between about 25 and 50 mg/mL;  
(m) about 25 mg/mL; or  
(n) about 50 mg/mL.

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63. The liquid lansoprazole formulation of claim 47, wherein the concentration of calcium gluceptate is:

- (a) less than or equal to 20 mg/mL;  
(b) less than or equal to 17.5 mg/mL;  
15 (c) less than or equal to 15 mg/mL;  
(d) less than or equal to 12.5 mg/mL;  
(e) less than or equal to 10 mg/mL;  
(f) between about 0.1 and 20 mg/mL;  
(g) between about 0.5 and 20 mg/mL;  
20 (h) between about 1 and 20 mg/mL;  
(i) between about 2.5 and 20 mg/mL;  
(j) between about 5 and 20 mg/mL;  
(k) between about 7.5 and 20 mg/mL;  
(l) between about 10 and 20 mg/mL;  
25 (m) between about 10 and 15 mg/mL;  
(n) about 10 mg/mL; or  
(o) about 20 mg/mL.

30 64. The liquid lansoprazole formulation of claim 47, wherein the concentration of diethanolamine is:

- (a) less than or equal to 40 mg/mL;  
(b) less than or equal to 35 mg/mL;  
(c) less than or equal to 30 mg/mL;  
(d) less than or equal to 25 mg/mL;  
35 (e) less than or equal to 20 mg/mL;

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- 5 (f) between about 0.5 and 40 mg/mL;  
(g) between about 1 and 40 mg/mL;  
(h) between about 5 and 40 mg/mL;  
(i) between about 10 and 40 mg/mL;  
(j) between about 15 and 40 mg/mL;  
10 (k) between about 20 and 40 mg/mL;  
(l) between about 20 and 30 mg/mL;  
(m) about 20 mg/mL; or  
(n) about 40 mg/mL.
- 15 65. The liquid lansoprazole formulation of claim 47, wherein the concentration of PEG 35 castor oil is:
- (a) less than or equal to 100 mg/mL;  
(b) less than or equal to 75 mg/mL;  
(c) less than or equal to 50 mg/mL;  
20 (d) less than or equal to 40 mg/mL;  
(e) less than or equal to 25 mg/mL;  
(f) between about 0.5 and 100 mg/mL;  
(g) between about 1 and 75 mg/mL;  
(h) between about 2 and 50 mg/mL;  
25 (i) between about 5 and 50 mg/mL;  
(j) between about 10 and 50 mg/mL;  
(k) between about 20 and 50 mg/mL;  
(l) between about 25 and 50 mg/mL;  
(m) about 25 mg/mL; or  
30 (n) about 50 mg/mL.
66. The liquid lansoprazole formulation of claim 47, wherein the concentration of deoxycholic acid is:
- (a) less than or equal to 25 mg/mL;  
35 (b) less than or equal to 20 mg/mL;

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- 5 (c) less than or equal to 15 mg/mL;  
(d) less than or equal to 12.5 mg/mL;  
(e) between about 0.5 and 25 mg/mL;  
(f) between about 1 and 25 mg/mL;  
(g) between about 2 and 25 mg/mL;  
10 (h) between about 5 and 25 mg/mL;  
(i) between about 10 and 25 mg/mL;  
(j) between about 10 and 20 mg/mL;  
(k) between about 10 and 15 mg/mL;  
(l) about 12.5 mg/mL; or  
15 (m) about 25 mg/mL.

67. The liquid lansoprazole formulation of claim 47, wherein the concentration of mannitol is:

- (a) less than or equal to 25 mg/mL;  
20 (b) less than or equal to 20 mg/mL;  
(c) less than or equal to 15 mg/mL;  
(d) less than or equal to 12.5 mg/mL;  
(e) between about 0.5 and 25 mg/mL;  
(f) between about 1 and 25 mg/mL;  
25 (g) between about 2 and 25 mg/mL;  
(h) between about 5 and 25 mg/mL;  
(i) between about 10 and 25 mg/mL;  
(j) between about 10 and 20 mg/mL;  
(k) between about 10 and 15 mg/mL;  
30 (l) about 12.5 mg/mL; or  
(m) about 25 mg/mL.

68. The liquid lansoprazole formulation of claim 47, wherein the concentration of magnesium chloride is:

- 35 (a) less than or equal to 40 mg/mL;

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- 5 (b) less than or equal to 35 mg/mL;  
(c) less than or equal to 30 mg/mL;  
(d) less than or equal to 25 mg/mL;  
(e) less than or equal to 20 mg/mL;  
(f) between about 0.5 and 40 mg/mL;  
10 (g) between about 1 and 40 mg/mL;  
(h) between about 5 and 40 mg/mL;  
(i) between about 10 and 40 mg/mL;  
(j) between about 15 and 40 mg/mL;  
(k) between about 20 and 40 mg/mL;  
15 (l) between about 20 and 30 mg/mL;  
(m) about 20 mg/mL; or  
(n) about 40 mg/mL.

69. The liquid lansoprazole formulation of claim 47, wherein the concentration of  
20 sodium tartrate is:

- (a) less than or equal to 40 mg/mL;  
(b) less than or equal to 35 mg/mL;  
(c) less than or equal to 30 mg/mL;  
(d) less than or equal to 25 mg/mL;  
25 (e) less than or equal to 20 mg/mL;  
(f) between about 0.5 and 40 mg/mL;  
(g) between about 1 and 40 mg/mL;  
(h) between about 5 and 40 mg/mL;  
(i) between about 10 and 40 mg/mL;  
30 (j) between about 15 and 40 mg/mL;  
(k) between about 20 and 40 mg/mL;  
(l) between about 20 and 30 mg/mL;  
(m) about 20 mg/mL; or  
(n) about 40 mg/mL.

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5 70. The liquid lansoprazole formulation of claim 47, wherein the concentration of ethanol is:

- (a) less than or equal to 100 mg/mL;
- (b) less than or equal to 75 mg/mL;
- (c) less than or equal to 50 mg/mL;
- 10 (d) less than or equal to 40 mg/mL;
- (e) less than or equal to 25 mg/mL;
- (f) between about 0.5 and 100 mg/mL;
- (g) between about 1 and 75 mg/mL;
- (h) between about 2 and 50 mg/mL;
- 15 (i) between about 5 and 50 mg/mL;
- (j) between about 10 and 50 mg/mL;
- (k) between about 20 and 50 mg/mL;
- (l) between about 25 and 50 mg/mL;
- (m) about 25 mg/mL; or
- 20 (n) about 50 mg/mL.

71. The liquid lansoprazole formulation of claim 47, wherein the concentration of glycerin is:

- (a) less than or equal to 100 mg/mL;
- 25 (b) less than or equal to 75 mg/mL;
- (c) less than or equal to 50 mg/mL;
- (d) less than or equal to 40 mg/mL;
- (e) less than or equal to 25 mg/mL;
- (f) between about 0.5 and 100 mg/mL;
- 30 (g) between about 1 and 75 mg/mL;
- (h) between about 2 and 50 mg/mL;
- (i) between about 5 and 50 mg/mL;
- (j) between about 10 and 50 mg/mL;
- (k) between about 20 and 50 mg/mL;
- 35 (l) between about 25 and 50 mg/mL;

- 5           (m) about 25 mg/mL; or  
          (n) about 50 mg/mL.

72. The liquid lansoprazole formulation of claim 47, wherein the concentration of hydroxypropyl-beta-cyclodextrin is:

- 10           (a) less than or equal to 100 mg/mL;  
          (b) less than or equal to 75 mg/mL;  
          (c) less than or equal to 50 mg/mL;  
          (d) less than or equal to 40 mg/mL;  
          (e) less than or equal to 25 mg/mL;  
15           (f) between about 0.5 and 100 mg/mL;  
          (g) between about 1 and 75 mg/mL;  
          (h) between about 2 and 50 mg/mL;  
          (i) between about 5 and 50 mg/mL;  
          (j) between about 10 and 50 mg/mL;  
20           (k) between about 20 and 50 mg/mL;  
          (l) between about 25 and 50 mg/mL;  
          (m) about 25 mg/mL; or  
          (n) about 50 mg/mL.

25   73. The liquid lansoprazole formulation of claim 47, wherein the concentration of PEG 6 is:

- (a) less than or equal to 100 mg/mL;  
          (b) less than or equal to 75 mg/mL;  
          (c) less than or equal to 50 mg/mL;  
30           (d) less than or equal to 40 mg/mL;  
          (e) less than or equal to 25 mg/mL;  
          (f) between about 0.5 and 100 mg/mL;  
          (g) between about 1 and 75 mg/mL;  
          (h) between about 2 and 50 mg/mL;  
35           (i) between about 5 and 50 mg/mL;

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- 5 (j) between about 10 and 50 mg/mL;  
(k) between about 20 and 50 mg/mL;  
(l) between about 25 and 50 mg/mL;  
(m) about 25 mg/mL; or  
(n) about 50 mg/mL.

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74. The liquid lansoprazole formulation of claim 47, wherein the concentration of lactose is:

- (a) less than or equal to 25 mg/mL;  
(b) less than or equal to 20 mg/mL;  
15 (c) less than or equal to 15 mg/mL;  
(d) less than or equal to 12.5 mg/mL;  
(e) between about 0.5 and 25 mg/mL;  
(f) between about 1 and 25 mg/mL;  
(g) between about 2 and 25 mg/mL;  
20 (h) between about 5 and 25 mg/mL;  
(i) between about 10 and 25 mg/mL;  
(j) between about 10 and 20 mg/mL;  
(k) between about 10 and 15 mg/mL;  
(l) about 12.5 mg/mL; or  
25 (m) about 25 mg/mL.

75. The liquid lansoprazole formulation of claim 47, wherein the concentration of benzethonium chloride is:

- (a) less than or equal to 40 mg/mL;  
30 (b) less than or equal to 35 mg/mL;  
(c) less than or equal to 30 mg/mL;  
(d) less than or equal to 25 mg/mL;  
(e) less than or equal to 20 mg/mL;  
(f) between about 0.5 and 40 mg/mL;  
35 (g) between about 1 and 40 mg/mL;

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- 5 (h) between about 5 and 40 mg/mL;  
(i) between about 10 and 40 mg/mL;  
(j) between about 15 and 40 mg/mL;  
(k) between about 20 and 40 mg/mL;  
(l) between about 20 and 30 mg/mL;  
10 (m) about 20 mg/mL; or  
(n) about 40 mg/mL.

76. The liquid lansoprazole formulation of claim 47, wherein the concentration of chlorobutanol is:

- 15 (a) less than or equal to 3 mg/mL;  
(b) less than or equal to 2.5 mg/mL;  
(c) less than or equal to 2 mg/mL;  
(d) less than or equal to 1.5 mg/mL;  
(e) between about 0.01 and 3 mg/mL;  
20 (f) between about 0.05 and 3 mg/mL;  
(g) between about 0.1 and 3 mg/mL;  
(h) between about 0.5 and 3 mg/mL;  
(i) between about 1 and 3 mg/mL;  
(j) between about 1.5 and 3 mg/mL;  
25 (k) between about 1.5 and 2.5 mg/mL;  
(l) about 1.5 mg/mL; or  
(m) about 3 mg/mL.

77. The liquid lansoprazole formulation of claim 47, wherein the lansoprazole  
30 concentration is:

- (a) greater than or equal to about 0.3 mg/mL;  
(b) greater than or equal to about 0.4 mg/mL;  
(c) greater than or equal to about 0.5 mg/mL;  
(d) greater than or equal to about 0.6 mg/mL;  
35 (e) greater than or equal to about 0.7 mg/mL;



- 5 (f) greater than or equal to about 0.8 mg/mL;  
(g) greater than or equal to about 0.9 mg/mL;  
(h) greater than or equal to about 1.0 mg/mL;  
(i) greater than or equal to about 2 mg/mL;  
(j) greater than or equal to about 3 mg/mL;  
10 (k) greater than or equal to about 4 mg/mL;  
(l) greater than or equal to about 5 mg/mL;  
(m) greater than or equal to about 10 mg/mL;  
(n) greater than or equal to about 20 mg/mL;  
(o) greater than or equal to about 30 mg/mL;  
15 (p) greater than or equal to about 40 mg/mL;  
(q) between about 0.3 and 40 mg/mL;  
(r) between about 0.3 and 30 mg/mL;  
(s) between about 0.3 and 20 mg/mL;  
(t) between about 0.3 and 10 mg/mL;  
20 (u) between about 0.3 and 5 mg/mL;  
(v) about 0.3 mg/mL;  
(w) about 0.4 mg/mL;  
(x) about 0.5 mg/mL;  
(y) about 0.7 mg/mL;  
25 (z) about 1 mg/mL;  
(aa) about 2 mg/mL;  
(bb) about 3 mg/mL;  
(cc) about 4 mg/mL; or  
(dd) about 5 mg/mL.

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78. A liquid lansoprazole formulation comprising lansoprazole and a two, three, or four excipient system, wherein the excipients comprise:

- (a) polysorbate 80 and PEG 400;  
(b) polysorbate 80 and polypropylene glycol;  
35 (c) polysorbate 80 and ethanol;

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- 5 (d) PEG 300 and polypropylene glycol;  
(e) polysorbate 20 and PEG 300;  
(f) polypropylene glycol and ethanol;  
(g) polysorbate 80 and PEG 300;  
(h) PEG 300 and ethanol;  
10 (i) polypropylene glycol, PEG 300, and ethanol;  
(j) polysorbate 80, PEG 300, and ethanol  
(k) polysorbate 80, polypropylene glycol, and ethanol;  
(l) polysorbate 80, polypropylene glycol, and PEG 300; or  
(m) polysorbate 80, polypropylene glycol, PEG 300, and ethanol.  
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79. The liquid lansoprazole formulation of claim 78, wherein the lansoprazole concentration is:
- 20 (a) less than or equal to about 35 mg/mL;  
(b) less than or equal to about 30 mg/mL;  
(c) less than or equal to about 25mg/mL;  
(d) less than or equal to about 20 mg/mL;  
(e) less than or equal to about 15 mg/mL;  
(f) less than or equal to about 10 mg/mL;  
(g) less than or equal to about 5 mg/mL;  
25 (h) less than or equal to about 4 mg/mL;  
(i) less than or equal to about 1 mg/mL;  
(j) less than or equal to about 0.4 mg/mL;  
(k) between about 0.4 and 35 mg/mL;  
(l) between about 1 and 35 mg/mL;  
30 (m) between about 4 and 35 mg/mL;  
(n) between about 5 and 35 mg/mL;  
(o) between about 10 and 35 mg/mL;  
(p) between about 15 and 35 mg/mL;  
(q) between about 20 and 35 mg/mL;  
35 (r) between about 25 and 35 mg/mL;

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- 5 (s) about 20 mg/mL;  
(t) about 25 mg/mL;  
(u) about 30 mg/mL; or  
(v) about 35 mg/mL.
- 10 80. The liquid lansoprazole formulation of claim 78, wherein the lansoprazole concentration is:
- (a) greater than or equal to 25 mg/mL;  
(b) greater than or equal to 30 mg/mL;  
(c) greater than or equal to 35 mg/mL;  
15 (d) greater than or equal to 40 mg/mL;  
(e) greater than or equal to 45 mg/mL;  
(f) between about 25 and 45 mg/mL;  
(g) between about 30 and 45 mg/mL;  
(h) between about 35 and 45 mg/mL;  
20 (i) between about 40 and 45 mg/mL;  
(j) between about 35 and 40 mg/mL;  
(k) about 30 mg/mL;  
(l) about 35 mg/mL;  
(m) about 40 mg/mL; or  
25 (n) about 45 mg/mL.
81. The liquid lansoprazole formulation of claim 78, wherein the ratio of excipients in a two excipient system is:
- (a) 1:1;  
30 (b) 2:1;  
(c) 1.5:1;  
(d) 1:2;  
(e) 1:1.5;  
(f) 1:3; or  
35 (g) 3:1.

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82. The liquid lansoprazole formulation of claim 78, wherein the ratio of excipients in a three excipient system is:

- (a) 0.3:0.8:0.2;
- (b) 1:1:1;
- 10 (c) 2:1:1;
- (d) 2:1:0.5; or
- (e) 2.5:1.0:0.5.

83. The liquid lansoprazole formulation of claim 78, wherein the ratio of excipients in a four excipient system is:

- (a) 2.0:1.0:0.8:0.2;
- (b) 1:1:1:1;
- (c) 2:1:1:1;
- (d) 2:1:2:1; or
- 20 (e) 2:1:1:0.5.

84. A liquid pharmaceutical formulation suitable for parenteral administration to a mammal comprising:

- (a) lansoprazole, a derivative, or a pharmaceutically acceptable salt thereof; and
- 25 (b) one or more of an oil, a solvent, a surfactant or another excipient.